In the Claims

Please amend the claims as follows:

1. (Currently Amended) An optical communication device, comprising:

a plurality of integrated modules operable to transmit and receive a plurality of optical signals, at least one of the plurality of integrated modules comprising:

one or more transmitters each operable to generate at least one of the plurality of optical signals and to modulate information onto the at least one of the plurality of optical signals to form a modulated optical output signal, each modulated optical output signal comprising at least a first optical signal wavelength; and

one or more receivers each operable to receive an input optical signal, each input optical signal comprising a second optical signal wavelength;

a wavelength division multiplexer coupled to at least some of the plurality of integrated modules and coupled to an optical splitter, the wavelength division multiplexer operable to combine the modulated output optical signal and at least another of the plurality of optical signals into a multiple wavelength output optical signal for communication to the optical splitter, wherein the optical splitter separates the multiple wavelength output optical signal into a plurality of multiple wavelength output optical signals; and

a controller coupled to at least some of the plurality of integrated modules, the controller operable to generate a control signal based at least in part on a scheduling algorithm and to communicate the control signal to the at least some of the plurality of integrated modules, wherein the at least some of the plurality of integrated modules use the control signal to reduce contention between the plurality of integrated modules; and

wherein at least one of the one or more transmitters comprises a super-continuum source, the super-continuum source coupled to one or more modulators operable to modulate information onto an output from the super-continuum source, wherein the super-continuum source comprises: ~~comprising an optical amplifier and a length of optical fiber followed by one or more modulators capable of modulating information on an output from the super-continuum source.~~

a pulsed source operable to generate a series of optical pulses; and

an optical amplifier comprising a first end that is coupled to the pulsed source and a second end coupled to a length of optical fiber, the length of optical fiber comprising at least

a first stage fiber and a second stage fiber, wherein the first stage fiber comprises a first dispersion that is different than a second dispersion of the second stage fiber.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Previously Presented) The optical communication device of Claim 1, further comprising an optical signal separator operable to receive a multiple wavelength optical input signal and to separate that signal into at least the input optical signal.

8. (Previously Presented) The optical communication device of Claim 7, wherein at least one of the plurality of optical input signal wavelengths comprises a packet comprising an identifier associated with a destination element external to the optical communication device.

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) The optical communication device of Claim 7, wherein the separator is a device selected from the group consisting of a wavelength division demultiplexer, a waveguide grating router, and an arrayed waveguide grating.

12. (Cancelled)

13. (Cancelled)

14. (Currently Amended) The optical communication device of Claim 1, wherein the ~~transmitter~~ pulsed source includes at least one light source selected from the group consisting of laser diodes and light emitting diodes.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) An optical communication device, comprising:

a plurality of integrated modules operable to communicate a multiple wavelength output optical signal, each of the plurality of integrated modules operable to receive at least some of a plurality of optical signal wavelengths and to generate at least one wavelength of a multiple wavelength output optical signal, each of the plurality of integrated modules comprising:

an optical signal separator operable to separate an input optical signal from the plurality of optical signal wavelengths received by the integrated module;

a receiver coupled to the optical signal separator, the receiver operable to receive the input optical signal and to convert at least a portion of the input optical signal into an electronic signal; and

an optical transmitter operable to generate at least a portion of the multiple wavelength output optical signal and to modulate information onto the portion of the multiple wavelength optical signal to form a modulated optical output signal, wherein the optical transmitter comprises a super-continuum source, the super-continuum source coupled to one or more modulators operable to modulate information onto an output from the super-continuum source, wherein the super-continuum source comprises: ~~comprising an optical amplifier and a length of optical fiber followed by one or more modulators capable of modulating information on an output from the super-continuum source;~~

a pulsed source operable to generate a series of optical pulses; and

an optical amplifier comprising a first end that is coupled to the pulsed source and a second end coupled to a length of optical fiber, the length of optical fiber comprising at least a first stage fiber and a second stage fiber, wherein the first stage fiber comprises a first dispersion that is different than a second dispersion of the second stage fiber;

an optical splitter coupled to at least some of the plurality of integrated modules, wherein the optical splitter is operable to receive at least some of the multiple wavelength output optical signal and to separate the multiple wavelength output optical signal into a plurality of multiple wavelength output optical signals; and

a controller coupled to at least some of the plurality of integrated modules, the controller operable to generate a control signal based at least in part on a scheduling algorithm and to communicate the control signal to the at least some of the plurality of integrated modules, wherein the at least some of the plurality of integrated modules use the control signal to reduce contention between the plurality of integrated modules.

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Previously Presented) The optical communication device of Claim 18, wherein at least one of the plurality of optical input signal wavelengths comprises a packet comprising an identifier associated with a destination element external to the optical communication device.

25. (Cancelled)

26. (Cancelled)

27. (Previously Presented) The optical communication device of Claim 18, wherein the separator is a device selected from the group consisting of a wavelength division demultiplexer, a waveguide grating router, and an arrayed waveguide grating.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Previously Presented) The communication device of Claim 18, further comprising a combiner operable to receive each of the optical output wavelength signals and to generate the at least one wavelength of the multiple wavelength output optical signal.

36. (Currently Amended) An optical communication system, comprising:

a first integrated module that generates a first output signal comprising a first optical signal wavelength, the first integrated module coupled to an optical distribution network comprising one or more optical splitters, at least some of a first one or more of the optical splitters receive the first output signal and separate the first output signal into a plurality of first output optical signals;

a second integrated module that generates a second output signal comprising a second optical signal wavelength, the second integrated module and the second output signal coupled to the optical distribution network comprising the one or more optical splitters, wherein the second integrated module receives at least one of the plurality of first output optical signals and wherein at least the second integrated module comprises:

an optical signal separator operable to separate the first optical signal wavelength from one or more optical signal wavelengths received by the second integrated module;

one or more receivers operable to receive the first optical signal wavelength and to convert at least a portion of the first optical signal wavelength into an electrical signal; and

one or more transmitters each operable to generate the second output optical signal coupled directly to the optical distribution network at the second optical signal wavelength and to modulate information onto the second output optical signal, wherein at least one of the one or more transmitters comprises a super-continuum source, the super-continuum source coupled to one or more modulators operable to modulate information onto an output from the super-continuum source, wherein the super-continuum source comprises: ~~comprising an optical amplifier and a length of optical fiber followed by one or more modulators capable of modulating information on an output from the super-continuum source; and~~

a pulsed source operable to generate a series of optical pulses; and

an optical amplifier comprising a first end that is coupled to the pulsed source and a second end coupled to a length of optical fiber, the length of optical fiber comprising at least a first stage fiber and a second stage fiber, wherein the first stage fiber comprises a first dispersion that is different than a second dispersion of the second stage fiber; and

a controller coupled to the first and second integrated modules, the controller operable to generate a control signal based at least in part on a scheduling algorithm and to

communicate the control signal to at least the first and second integrated modules, wherein the first and second integrated modules use the control signal to reduce contention within the optical communication system.

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Previously Presented) The optical communication system of Claim 36, wherein the first optical signal wavelength comprises a packet comprising an identifier associated with a destination element external to the optical communication system.

42. (Cancelled)

43. (Currently Amended) The optical communication system of Claim 36, wherein ~~at least some of the one or more transmitters comprise one or more light source that are~~ the pulsed source is selected from the group consisting of laser diodes and light emitting diodes.

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Previously Presented) The optical communication system of Claim 36, further comprises a look up table operable to facilitate generation of at least a first control signal based at least in part on an identifier.

48. (Previously Presented) The optical communication device of Claim 1, further comprising a filter to separate the input optical signal from a multiple wavelength signal received by the integrated module, wherein the filter separates the input optical signal based at least in part on the control signal generated by the controller.

49. (Previously Presented) The optical communication device of Claim 1, further comprising a second optical amplifier operable to amplify at least some of the optical signals generated by the one or more transmitters.

50. (Previously Presented) The optical communication device of Claim 1, wherein the modulated optical output wavelength signal comprises a time division multiplexed optical signal.

51. (Previously Presented) The optical communication device of Claim 1, wherein the input optical signal comprises a time division multiplexed optical signal.

52. (Previously Presented) The optical communication device of Claim 1, wherein the splitter separates the multiple wavelength output optical signal into sixteen (16) or more outgoing signals.

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)

56. (Previously Presented) The optical communication device of Claim 18, wherein the optical signal separator comprises a filter, and wherein the filter separates the input optical signal from the plurality of optical signal wavelengths based at least in part on the control signal generated by the controller.

57. (Cancelled)

58. (Previously Presented) The optical communication device of Claim 18, further comprising a second optical amplifier operable to amplify at least some of the multiple wavelength output signals.

59. (Previously Presented) The optical communication device of Claim 18, wherein the modulated output optical signal comprises a time division multiplexed signal.

60. (Previously Presented) The optical communication device of Claim 18, wherein the input optical signal comprises a time division multiplexed signal.

61. (Previously Presented) The optical communication device of Claim 18, wherein the splitter separates the multiple wavelength output optical signal into sixteen (16) or more outgoing signals.

62. (Cancelled)

63. (Cancelled)

64. (Cancelled)

65. (Previously Presented) The optical communication device of Claim 18, wherein the integrated module comprises a plurality of receivers.

66. (Previously Presented) The communication device of Claim 35, wherein the combiner is selected from the group consisting of a wavelength division multiplexer and a power combiner.

67. (Cancelled)

68. (Previously Presented) The optical communication system of Claim 36, wherein the optical signal separator comprises a filter, and wherein the filter separates the first optical signal wavelength from the one or more optical signal wavelengths based at least in part on the control signal generated by the controller.

69. (Previously Presented) The optical communication system of Claim 36, wherein the first output signal is time division multiplexed.

70. (Previously Presented) The optical communication system of Claim 36, wherein the second output signal is time division multiplexed.

71. (Cancelled)

72. (Cancelled)

73. (Previously Presented) The optical communication system of Claim 36, further comprising a second optical amplifier operable to amplify one or more optical signal wavelengths received by the second integrated module.

74. (Cancelled)

75. (Previously Presented) The optical communication device of Claim 1, wherein the optical amplifier comprises an erbium-doped fiber amplifier.

76. (Currently Amended) The optical communication device of Claim 1, wherein the ~~length of optical fiber comprises at least two stages and wherein a~~ first stage fiber comprises at least in part a standard optical fiber.

77. (Previously Presented) The optical communication device of Claim 1, wherein the one or more modulators comprise a signal splitter followed by a plurality of modulators, wherein each of the plurality of modulators receives a different wavelength output from the super-continuum source.

78. (Previously Presented) The optical communication device of Claim 1, wherein the optical splitter comprises a power splitter that separates the multiple wavelength output optical signal into the plurality of multiple wavelength output optical signals, each of the plurality of output optical signals comprising a substantially similar set of wavelengths.

79. (Previously Presented) The optical communication device of Claim 18, wherein the optical amplifier comprises an erbium-doped fiber amplifier.

80. (Currently Amended) The optical communication device of Claim 18, wherein the ~~length of optical fiber comprises at least two stages and wherein a~~ first stage fiber comprises at least in part a standard optical fiber.

81. (Previously Presented) The optical communication device of Claim 18, wherein the one or more modulators comprise a signal splitter followed by a plurality of modulators, wherein each of the plurality of modulators receives a different wavelength output from the super-continuum source.

82. (Previously Presented) The optical communication device of Claim 18, wherein the optical splitter comprises a power splitter operable to receive at least some of the multiple wavelength output optical signal and to separate the multiple wavelength output optical signal into the plurality of multiple wavelength output optical signals, each of the plurality of output optical signals comprising a substantially similar set of wavelengths.

83. (Previously Presented) The optical communication system of Claim 36, wherein the optical amplifier comprises an erbium-doped fiber amplifier.

84. (Currently Amended) The optical communication system of Claim 36, wherein the ~~length of optical fiber comprises at least two stages and wherein a~~ first stage fiber comprises at least in part a standard optical fiber.

85. (Previously Presented) The optical communication system of Claim 36, wherein the one or more modulators comprise a signal splitter followed by a plurality of modulators, wherein each of the plurality of modulators receives a different wavelength output from the super-continuum source.

86. (Previously Presented) The optical communication system of Claim 36, wherein the one or more optical splitters comprise one or more optical power splitters, at least some of a first one or more of the optical power splitters receive the first output signal and separate the first output signal into a plurality of first output optical signals, each of the plurality of first output optical signals comprising a substantially similar set of wavelengths.

87. (New) The optical communication device of Claim 1, wherein the first dispersion of the first stage fiber comprises a magnitude of dispersion that is higher than the second dispersion of the second stage fiber.

88. (New) The optical communication device of Claim 1, wherein at least the first stage fiber operates as a pulse compressor.

89. (New) The optical communication device of Claim 18, the first dispersion of the first stage fiber comprises a magnitude of dispersion that is higher than the second dispersion of the second stage fiber.

90. (New) The optical communication device of Claim 18, wherein at least the first stage fiber operates as a pulse compressor.

91. (New) The optical communication system of Claim 36, wherein the first dispersion of the first stage fiber comprises a magnitude of dispersion that is higher than the second dispersion of the second stage fiber.

92. (New) The optical communication system of Claim 36, wherein at least the first stage fiber operates as a pulse compressor.